

REMARKS

The specification is amended to correct typographical errors.

Claims 1-16, 18-48, and 50 are presented for prosecution. Claims 1, 6, 11, 14, 19, 31, 33, 38, 43, and 46 are amended. Claims 17 and 49 are canceled. Claims 51-56 are new.

Claims 19-32 were allowed. Applicants thank the Examiner for allowance of these claims.

Claims 6-16 and 38-48 were objected to for being dependent upon a rejected claim, but would be allowable if rewritten in independent form including all the limitations of their base claim and any intervening claims. Applicants again thank the Examiner, and have amended claims 6, 11, 14, 38, 43, 46 accordingly.

Specifically, claim 6 is rewritten in independent form including the limitations of its base claim 1 and intervening claim 5. Claims 7-10 are believed allowable based at least on the allowability of their base claim 6.

Claim 11 is rewritten in independent form including the limitations of its base claim 1. Claim 11 is believed to now be in condition for allowance. Also, claims 12 and 13, which depend from claim 11, are likewise believed to be allowable based at least on the allowability of their base claim 11.

Similarly, claim 14 is rewritten in independent form including the limitations of its bases claim 1. Claims 15 and 16 are believed allowable based at least on the allowability of their base claim 14.

Claim 38 is rewritten in independent form including the limitations of its base claim 33 and intervening claim 37. 39-42 are believed to be allowable based at least on the allowability of their base claim 38.

In like manner, claim 43 is rewritten in independent form including all the limitations of its base claim 33. Therefore, claims 44 and 45, which depend from claims 43 are likewise believed allowable based at least on the allowability of claim 43.

Lastly, claim 46 is rewritten in independent form including limitations of its base claim 33 so as to be placed in condition for allowance. Also, claims 47 and 48 are believed to also be in condition for allowance based at least on the allowability of their base claim 46.

Claims 17, 31, and 49 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Office Action explains that the claims recited changing pixels of the digital image bordering the first image pixels to a color having a common second brightness intensity lower than said first brightness intensity, but noted that according to the applicants specification (e.g. page 10, lines 21-24), bordering pixels should be lighter (i.e. have a brighter intensity). Applicants thank the Examiner and have amended claim 31 to specify that the bordering pixels are made brighter. Claims 17 and 49 are incorporated into their respective base claims 1 and 33, but their incorporated limitations also reflect this change.

Claims 17, 31, and 49 were also rejected under 35 U.S.C. §112, second paragraph, because they required changing the brightness of the common color. The Office action noted that, “strictly speaking, color is defined also by its brightness component (luminance)”, and thus changing the brightness technically also changes the color, such that by changing the brightness the color ceased to be “common”. To address this abjection, claims 17, 31, and 49, along with their respective base claims 1, 19, and 33, are amended (as required) to recite a first common predefined color and a second common predefined color so as to avoid any unintended ambiguity.

Furthermore, claims 17 and 49 were rejected under U.S.C. §103(a) as being unpatentable over Pattie et al., in view of Acker et al. and further in view of Benati et al. The Office Action concedes that, “neither Acker et al. nor Patti et al. teach changing the pixels of the digital image bordering the pupil region to a common color having a second brightness intensity higher than said first brightness intensity”. However, the Office Action then asserts that Benati et al. shows changing the color of bordering pixels “so that they have the same chrominance as the pixels within the pupil region, but a higher luminance. See Benati et al. column 8, lines 62-65 and column 9, lines 9-12”.

Applicants respectfully disagree, and point out that Benati et al. teach changing the bordering pixels to have a lower luminance's, not higher. Benati et al.'s column 8, line 62 to column 9, line 13 state:

"Next, both chroma channels are zeroed out (i.e., only the pixel's neutral value is left). At this point, the luminance channel is multiplied by a factor of 0.35 in order to reduce the lightness of the pixel's neutral value. (In general, a red eye has an unusually high luminance value due to the over abundance of light produced by the flash of the camera which illuminates the retina. Thus, upon correction, a reduction of this high luminance value is required. This factor, 0.35, is based upon experimental evidence and other values may result in natural renderings.) Finally, the YCC values are converted back to gamma RGB values, and set as the pixel's values. The above procedure describes Body correction 350. This is the method by which body pixels--pixels which are 8-connected only to eye color defect pixels--are desaturated (see FIG. 11). Border correction 360 is performed on border pixels, pixels which are 8-connected to at least one non-eye color defect pixel and to at least one eye color defect pixel. Such pixels are only darkened by a 0.15 factor." (emphasis added)

This clearly shows that Benati et al. teach *reducing* the brightness level of bordering pixels, not raising it, as is asserted by the Office Action. Thus, the teachings of Benati et al. are directly contrary to the teachings of claims 17 and 49.

The limitations of claim 17 have been incorporated into its base claim 1, and claim 17 is subsequently canceled. Similarly, the limitations of claim 49 have been incorporated into its base claim 33, and claim 49 is subsequently canceled. Therefore, claims 1 and 33 are believed to now be patentable over the cited prior art.

In its discussion of allowable subject matter, the Office Action explains in Item 44 in reference to claim 19 that, "prior art does not show searching for regions, corresponding to a potential second pupil, having an average size and/or color that lies within a range dependent on the average size and/or color of the first pupil". New independent claim 51 restates these allowable limitations in terms more concise than claim 19.

In reference to claim 28, Item 48 of the Office Action explains that none of the found prior art, "include a means for generating a second mask obtained by thresholding with a threshold lower than the first and AND'ing this mask with the first dilated mask to obtain a final indication of the region corresponding to the first (and second) pupil(s). Logical AND, however, is a frequently use operation when dealing with a manipulating binary mask". New independent claim 52 restates this limitation in more concise terms than claim 28, and does not limit the masking operation to an AND'ing operation. New claim 53, which depends from claim 52, limits the masking operation to an AND'ing operation.

Claims 54-56 are directed to other aspects of the present invention.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration of the present application.

Respectfully submitted,


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